

# Innovative Technologies for Veterans' Mental Health Recovery

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September 16, 2013



**VA**  
HEALTH  
CARE | Defining  
**EXCELLENCE**  
in the 21st Century

# Agenda

- Supporting Veterans and their mental/behavioral healthcare in the Department of Veterans Affairs (VA) and beyond
- Leveraging technologies to resolve challenges to delivery of standard care
  - **Web-based** education, self-management, and improved access to care and health information
  - **Social media** for outreach and education
  - **Telemental health** solutions for flexible treatment delivery
  - **Mobile applications** for increasing access and engagement
- Future Directions

# Veterans and the VA Healthcare System

- The Veterans Health Administration is America's largest integrated healthcare system with over 1,700 sites of care, serving 8.3 million Veterans per year.
- Veterans may be faced with a variety of mental health concerns and behavioral problems, including Posttraumatic Stress Disorder (PTSD), Depression, Substance Use Disorders, Suicidality, Chronic Pain, Insomnia, Nicotine Dependence
  - There are various **health conditions** that disproportionately affect Veterans (e.g., diabetes, cardiovascular disease)
  - There are various **relational, occupational, and functional problems** that require Veteran-specific solutions (e.g., unemployment, return to higher education, homelessness)
- VA provides evidence-based psychotherapies (EBP) and psychopharmacology interventions indicated in clinical practice guidelines for mental and behavioral health problems

# Technology as a Solution




























## **Improve treatment delivery**

By increasing efficiency, accessibility, and alleviating implementation challenges.

## **Increase treatment effectiveness**

Effective tools to provide psychoeducation, develop treatment strategies, practice invaluable skills introduced in therapy, improve tracking and monitoring capabilities (including in-the-moment assessment), and improve upon risk mitigation.

# Matching Technologies to Implementation Challenges and Opportunities

|   | <b>Telehealth</b>  | <b>Websites</b>  | <b>Social Media</b>  | <b>Mobile Apps</b>  |
|---|---|--|---|--|
| Anonymous use   |   |                 |                      |                     |
| Reduced patient burden                                    |                    |                 |                      |                     |
| Less provider time required                               |                    |                 |                      |                     |
| Portability   |   |               |                    |                   |
| Reach (non-consumability)                                 |   |               |                    |                   |
| Ability to deliver dense, thorough intervention           |                  |               |   |                   |
| Decrease likelihood of relapse following active treatment |   |               |                    |                   |

# Telemental Health

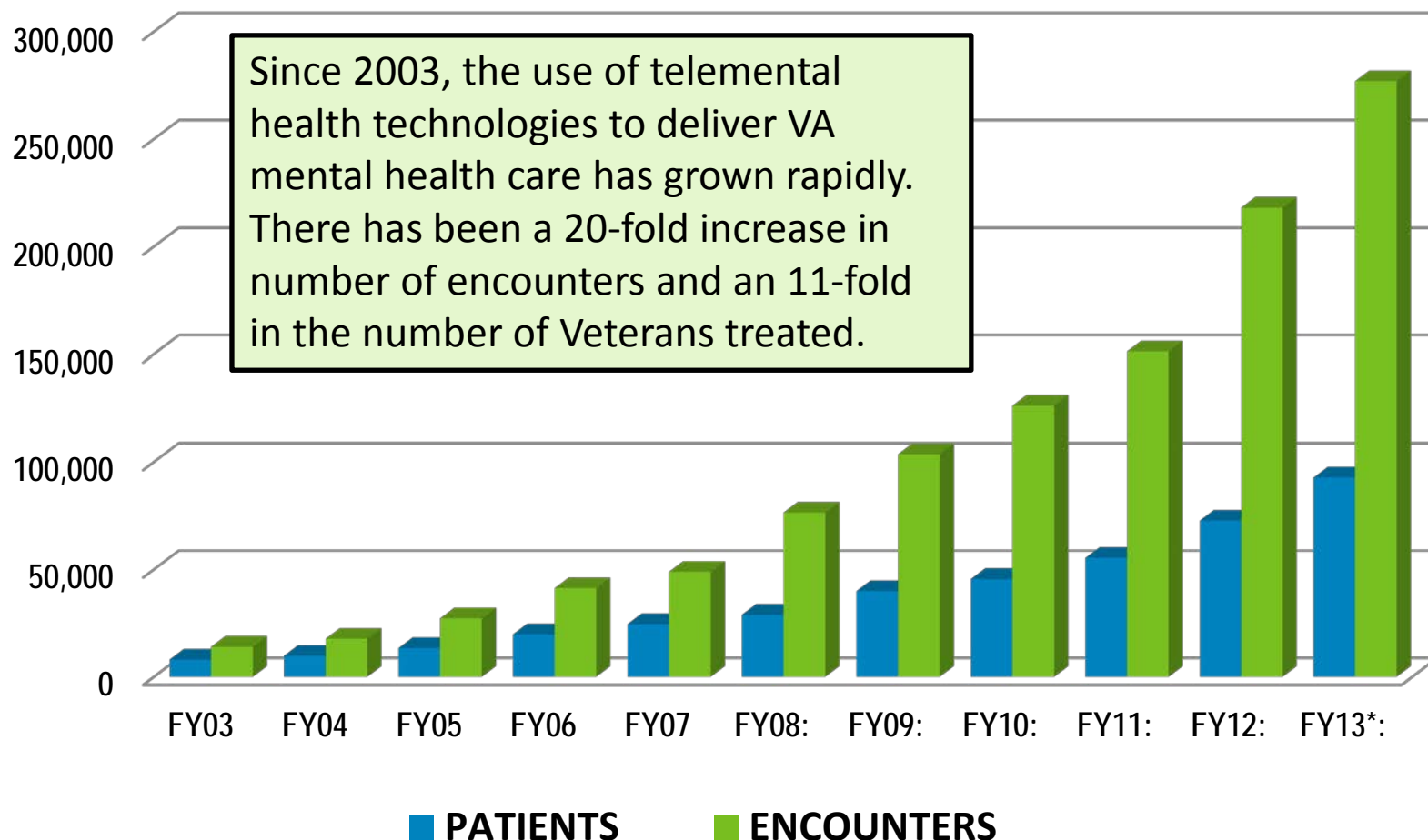




# Telemental Health and EBPs for PTSD

- Telemental Health (TMH) is defined as the use of information and telecommunication technologies to deliver mental health care services. TMH can be used to treat most every mental illness and to deliver all Evidence-based Psychotherapies (EBPs).
- Since 2007, VHA has sought ways to nationally disseminate and implement evidence-based psychotherapies (EBPs) for PTSD through telehealth modalities. In 2010, a national **EBP for PTSD TMH Initiative** was launched to expand this care.
- This vision is supported by recent research, including research conducted within VHA, that has shown these therapies to be effective and well-accepted by patients when delivered utilizing telehealth technologies, with results on par with face-to-face delivery of these treatments (e.g., Tuerk, Yoder, Ruggiero, Gros, & Acierno, 2010).
- Since 2010, VHA has placed more than 100 providers at carefully selected sites that focus on the delivery of PTSD EBPs through clinical video teleconferencing.
- In addition, three regional EBP for PTSD telemental health clinics have been established to augment local delivery of EBP for PTSD telemental health services.

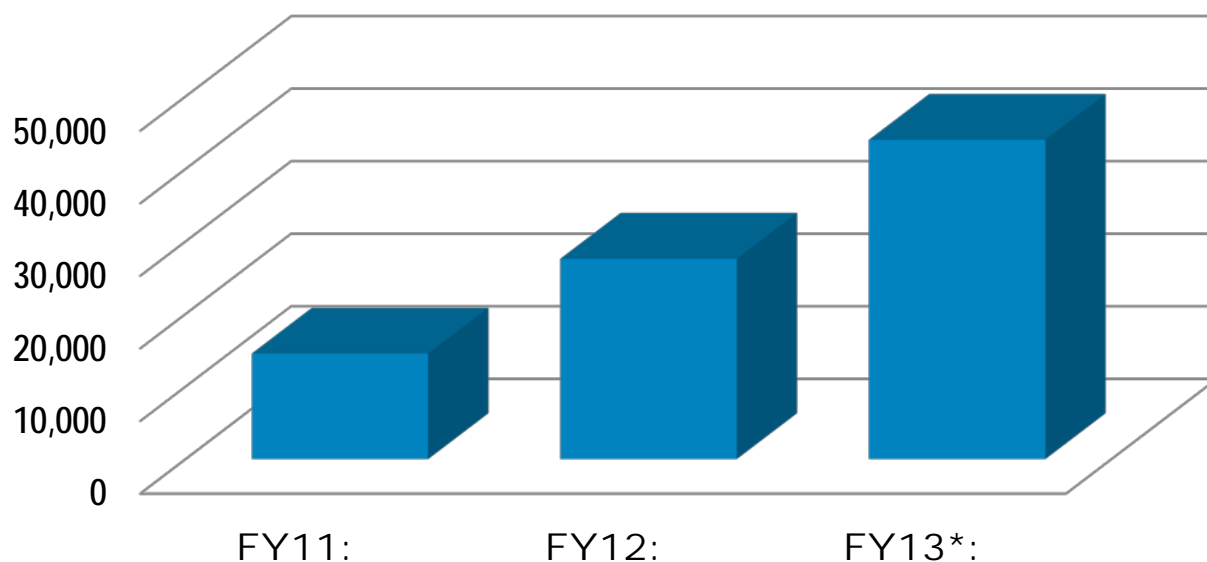
# Growth in all Telemental Health





# Growth in Telemental Health Psychotherapy for Veterans with PTSD

**Growth in TMH PTSD Encounters**



Since the launch of the EBP for PTSD TMH Initiative, psychotherapy telemental health encounters with Veterans with PTSD has increased **3-fold**.

*\*Fiscal Year 13 data is projected based on July 2013 data.*

*Veterans had a primary diagnosis of PTSD. These are any psychotherapy encounters in a mental health stop code. Delivery of EBPs for PTSD cannot be directly measured at this time.*

## Web Resources





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Veteran Services

Business

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Media Room

Locations

Contact Us

## MENTAL HEALTH

Mental Health Home

Community Providers Home

Screening for Military  
Service

Understanding the Military  
Experience

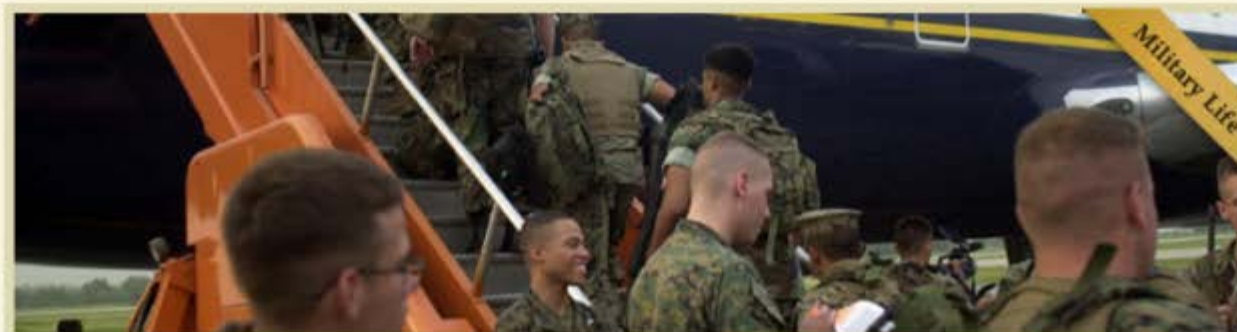
Mental Health and Wellness

Connecting with VA



### COMMUNITY PROVIDER TOOLKIT WORKING TOGETHER TO SERVE VETERANS

Feedback | About Us



#### Thank you for your interest and commitment to serving Veterans.

This site features key tools to support the mental health services you provide to Veterans. You can find information on connecting with VA, understanding military culture and experience, as well as tools for working with a variety of mental health conditions (found under Mental Health and Wellness).



#### MINI-CLINICS ▶

Essential mental health and wellness information.



#### MILITARY CULTURE ▶

Understanding Veterans through military culture & experiences.



#### Has Your Client Served in the Military?

*You may be surprised to hear that military background is not always assessed by clinicians or spontaneously shared by Veteran clients.*

Assessing Veteran status is not something that is

#### HIGHLIGHT

Supporting the Mental Health of  
Veterans and Families





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## MENTAL HEALTH

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Home](#)

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### VA Campus Toolkit

[Contact Us](#)

[About This Toolkit](#)

[Who Are Today's Student Veterans?](#)

[What Are Common Adjustment  
Experiences?](#)

[What Can I Do to Help?](#)

[Resources for Training and  
Presentations](#)

[Additional Online Resources](#)



1 2 3

## HOW CAN I SHOW SUPPORT FOR **STUDENT VETERANS** ON CAMPUS?



[FIND OUT MORE](#)



[Toolkit Overview](#)

## Read What Others Are Saying About **The VA Campus Toolkit**



## Welcome to the VA Campus Toolkit

This toolkit provides faculty, staff, and administrators resources to support student Veterans. The Post 9/11 GI Bill is bringing student Veterans to campuses in record numbers. Our aim is to help campuses welcome these men and women by recognizing who they are, and understanding their unique experiences, adjustments, and needs.





## What is Moving Forward?

Moving Forward is a free, on-line educational and life coaching program that teaches Problem Solving skills to help you to better handle life's challenges. It is designed to be especially helpful for Veterans, Military Service Members and their families. However, Moving Forward teaches skills that can be useful to anyone with stressful problems. Are you ready to Move Forward? Select the button below to take the Moving Forward Training.



**Start The Training**

(Flash Player Required)



Interested in checking out Moving Forward? The links below will take you into various pages with videos or activities in the course. If you want to return to this page, just close the course window.

### Meet the Cast

View two sample videos of characters from the course to learn how Moving Forward can help Veterans and Service Members.



### Does Stress Affect Your Performance?



Learn how time pressure can make it hard to complete a simple task.

### Is Your Brain Overloaded?



This game demonstrates how brain overload can limit your ability to remember important details.

### Relaxation Exercises



**Muscle Relaxation**



## Parenting Course



**START  
THE COURSE**

This free **online course** features key tools to support your parenting. They include:

- Parenting information and strategies for Service Member and Veteran parents.
- Guidance to help you reconnect with your children after a deployment and beyond.
- Videos of real families' stories, helpful exercises and practical parenting tip sheets.

### Parenting Introduction



## Quick Links



### MODULE 1 »

Back into the Family



### MODULE 2 »

Promoting Positive  
Parent-Child Communications



### MODULE 3 »

Helping Your Child with Difficult  
Emotions & Behaviors



### MODULE 4 »

Positive Approach to Discipline



### MODULE 5 »

Managing Stress & Emotions  
as a Parent



### MODULE 6 »

Parenting with Emotional &  
Physical Challenges

### RESOURCES »

Find helpful resources, including parenting tip sheets and videos.





# Outreach & Social Media



## *Make the Connection* – Overview

***Make the Connection*** is VA's public awareness and outreach campaign that connects Veterans and their friends and family members with information, resources, and solutions related to issues affecting their health, well-being, and relationships.

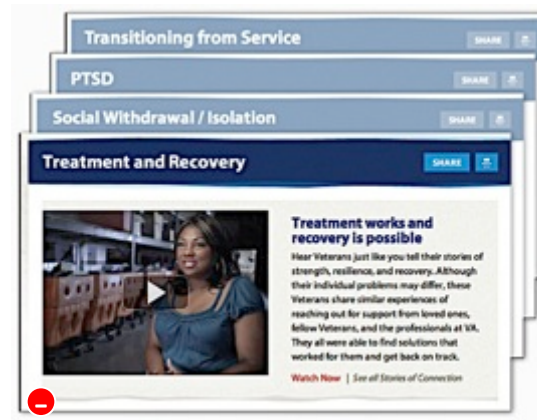
- Aims to reduce the stigma many Veterans and their families associate with seeking mental health support
- Highlights the particular strengths of Veterans that have sought support and are living a richer life today as a result: resilience, courage, perseverance, leadership, mission focus
- Features more than 300 Veterans and their family members who have contributed personal, candid testimonials about seeking treatment for challenges ranging from physical injury, flashbacks, TBI, PTSD, and depression

# A Resource for Veterans

At ***MakeTheConnection.net***, Veterans and members of their support networks can:



**Listen** to powerful video testimonials from Veterans and their family members



**Learn**, in plain language, about topics and solutions relevant to their experiences



**Locate** resources, programs, and services near them



# Real Veterans – Real Stories

Watch hundreds of Veterans' stories, all told in their own words.

Visitors can:


- Easily find Veterans' stories relevant to ***their own*** experiences
- Dynamically sort videos by:
  - Gender, era, branch, and exposure to combat
  - Life events and experiences
  - Signs and symptoms
  - Conditions

The screenshot displays the 'Browse Video Gallery' interface. On the left is a sidebar with filters: 'Gender' (BOTH, MALE, FEMALE), 'Era' (1960-1975 Vietnam War), 'Branch of Service' (U.S. Army), 'Combat Experience' (BOTH, YES, NO), 'Life Events & Experiences' (2) with checkboxes for various topics, and 'Signs & Symptoms'. The main area shows 'Showing 24 of 27 matching stories' with social media sharing options. Below are filter tags for 'COMBAT EXPERIENCE: YES', '(1960-1975) VIETNAM WAR', 'GENDER: MALE', 'U.S. ARMY', and 'FAMILY AND RELATIONSHIPS'. A grid of nine video thumbnails is displayed, each with a title and a play button icon. The titles are: 'Find the support you need at a Vet Center', 'Overcoming two decades of combat stress', 'I just couldn't connect with anything', 'I didn't see myself as needing help', 'A hunting trip was the turning point for Mike', 'I was constantly looking for that adrenaline rush', 'I was in denial', 'Long buried combat stress returns after 9/11', and 'A connection can turn your life around'.

# Resources: Benefiting Veterans and the Community

An easy-to-use resource locator helps Veterans – and those looking to assist them – find assistance for challenges ranging from transitioning from service to trouble sleeping to depression to PTSD

## National Search

**U.S. Department of Veterans Affairs Resources**

**1 Choose Location**

Search by Zip Code  within  miles

Or Search by State

**2 Choose Resources** [SHOW DESCRIPTIONS](#)

☐ VA Medical Centers

☐ Outpatient Clinics

☐ Vet Centers

☒ PTSD Program

☒ Suicide Prevention Coordinators


☐ VA Chaplains

☐ Veterans Benefits Administration Offices

☐ All VA Resources

**FIND VA RESOURCES**

**OR**

**National Resource Directory Resources**

First, enter a search term

Then, select categories to search by checking the boxes below

☐ Benefits & Compensation

☐ Education & Training

☐ Employment

☐ Family & Caregiver Support

☐ Health

☒ Homeless Assistance

☐ Housing

☐ Transportation & Travel

☐ Other Services & Resources

☐ All NRD Resources

**FIND NRD RESOURCES**

## Local Results

**Search Results**

**U.S. Department of Veterans Affairs Resources**

4 results found within 50 miles of zip code 20016

**PTSD Program**

**Washington DC VA Medical Center**  
approx. 1 miles away  
Washington, DC 20422  
p: 202-745-8000 Or 202-745-8000  
www.washingtondc.va.gov

**Baltimore VA Medical Center - VA Maryland Health Care System**  
approx. 35 miles away  
Baltimore, MD 21201  
p: 410-605-7000 Or 410-605-7000  
www.maryland.va.gov

**Suicide Prevention Coordinators**

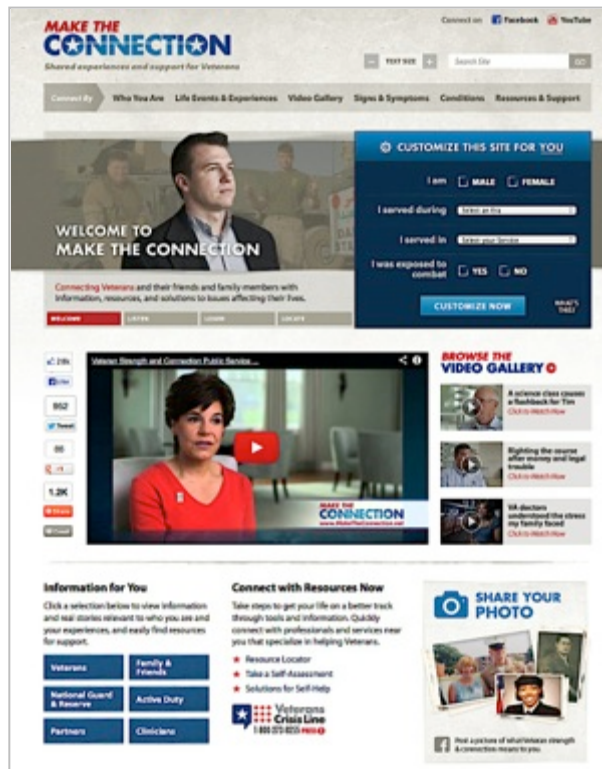
**Toles-Lucas, Patricia**  
approx. 3 miles away  
Washington, DC 20422  
p: 202-745-8000 Or 202-745-8000  
f: 202-745-8188  
Patricia.Toles@va.gov

**Stonick, Zita**  
approx. 35 miles away  
Baltimore, MD 21201  
p: 410-605-7000 Or 410-605-7000  
f: 410-605-7771  
baltimore.suicidepreventionteam@va.gov

# Encouraging Veterans to *Make the Connection*

Connecting with the Veteran community

**2.7 million visits**



[www.MakeTheConnection.net](http://www.MakeTheConnection.net)

**Over 1.7 million Facebook fans**



[www.facebook.com/VeteransMTC](http://www.facebook.com/VeteransMTC)

**Over 6.4 million video views; 7,300 YouTube subscribers**



[ww.YouTube.com/VeteransMTC](http://ww.YouTube.com/VeteransMTC)



# Reaching Veterans and Families Where They Are

A presence on **Facebook** and **YouTube** allows ***Make the Connection*** to:

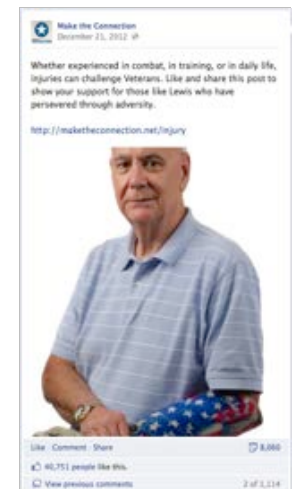
- Target likely Veterans and family members
- Encourage and promote healthy conversations about mental health in a non-traditional forum
- Empower users to easily share evidence-based messages with family and friends
- Employ the contact-based approach



Since June 2012 launch of MTC Facebook page:

- Post Likes: 4,099,286
- Comments: 464,193
- Shares: 164,910

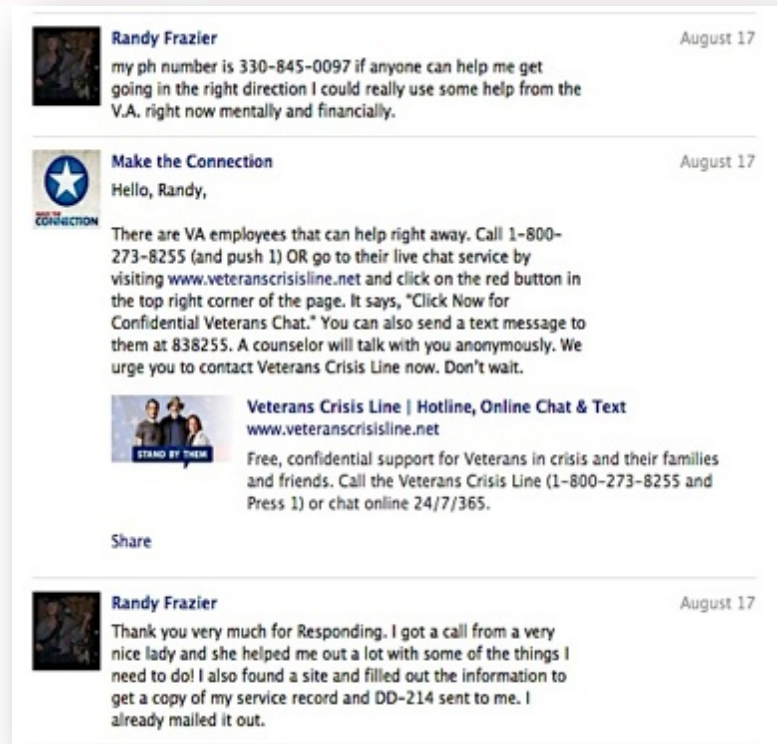
YouTube views: 6,437,647



# Monitoring and Responding to Community Questions

***Make the Connection's*** Facebook page is overseen by experienced moderators 24/7.

- Responses are made within an hour
- Over 2,700 questions have been answered
- Reinforces that VA is listening, engaged, and responsive
- Potential crisis posts are escalated and reported to the Veterans Crisis Line in near real time



The screenshot shows a Facebook thread. At the top, a post from Randy Frazier, dated August 17, asks for help finding a VA counselor. Below it, a post from 'Make the Connection' (a page with a star icon) responds, providing the Veterans Crisis Line contact information and a link to their website. The post includes a 'Share' button. At the bottom, Randy Frazier posts a thank-you message, mentioning that he received a service record and DD-214 form.

**Randy Frazier** August 17  
my ph number is 330-845-0097 if anyone can help me get going in the right direction I could really use some help from the V.A. right now mentally and financially.

**Make the Connection** August 17  
Hello, Randy,  
There are VA employees that can help right away. Call 1-800-273-8255 (and push 1) OR go to their live chat service by visiting [www.veteranscrisisline.net](http://www.veteranscrisisline.net) and click on the red button in the top right corner of the page. It says, "Click Now for Confidential Veterans Chat." You can also send a text message to them at 838255. A counselor will talk with you anonymously. We urge you to contact Veterans Crisis Line now. Don't wait.

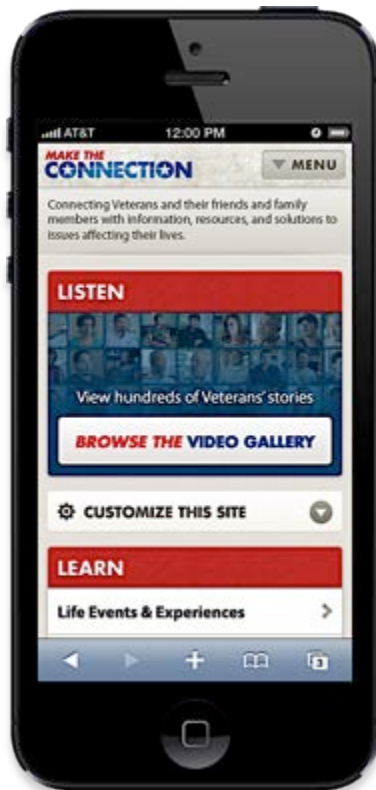
**Veterans Crisis Line | Hotline, Online Chat & Text**  
[www.veteranscrisisline.net](http://www.veteranscrisisline.net)  
Free, confidential support for Veterans in crisis and their families and friends. Call the Veterans Crisis Line (1-800-273-8255 and Press 1) or chat online 24/7/365.

Share

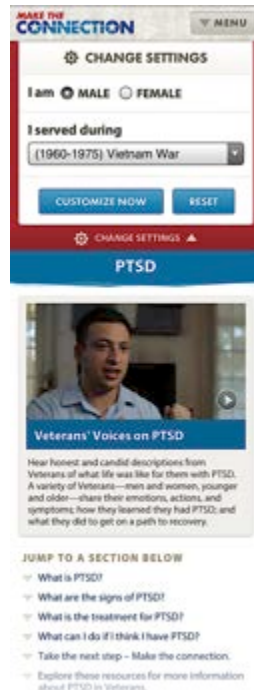
**Randy Frazier** August 17  
Thank you very much for Responding. I got a call from a very nice lady and she helped me out a lot with some of the things I need to do! I also found a site and filled out the information to get a copy of my service record and DD-214 sent to me. I already mailed it out.

# *MakeTheConnection.net* Mobile

Going mobile allowed ***MakeTheConnection.net*** to become universally accessible, while maintaining its dynamic and engaging features.



Filter



Video Gallery



Resource Locator





# Mobile Apps



# Applicable Characteristics of Mobile Technology



## Ubiquity

- 91% of American adults own a cell phone
- 56% of Americans adults are now smartphone owners
- Every major demographic group experienced significant year-to-year growth in smartphone ownership.
- 73% of active duty service members have smartphones
- 70% of people sleep with their cell phone; 90% of “digital natives” (under 30)
- There are more mobile phones in the world than toothbrushes

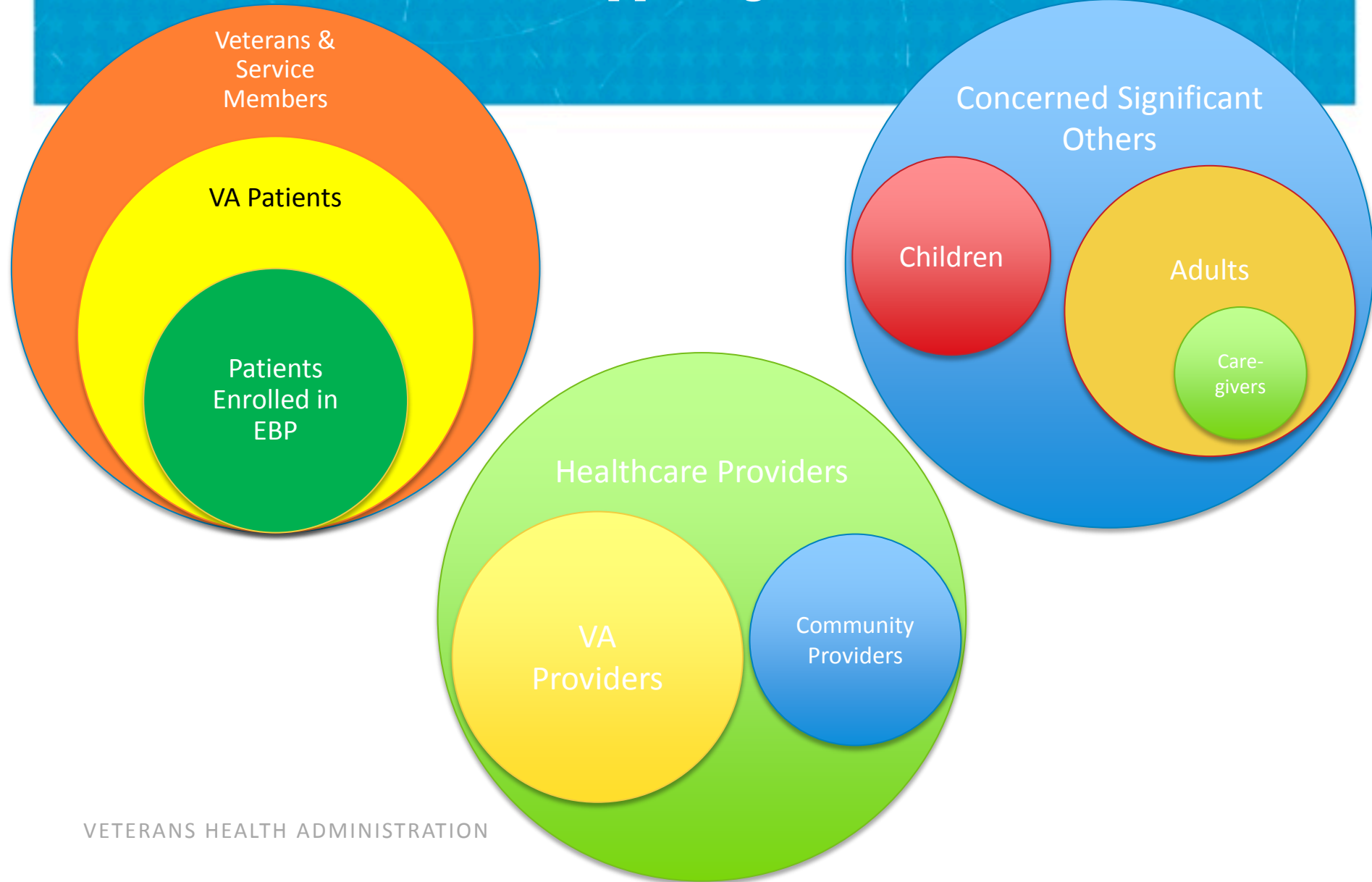
(Pew, 2013; Bush et al., 2012)

# The PTSD Coach Timeline

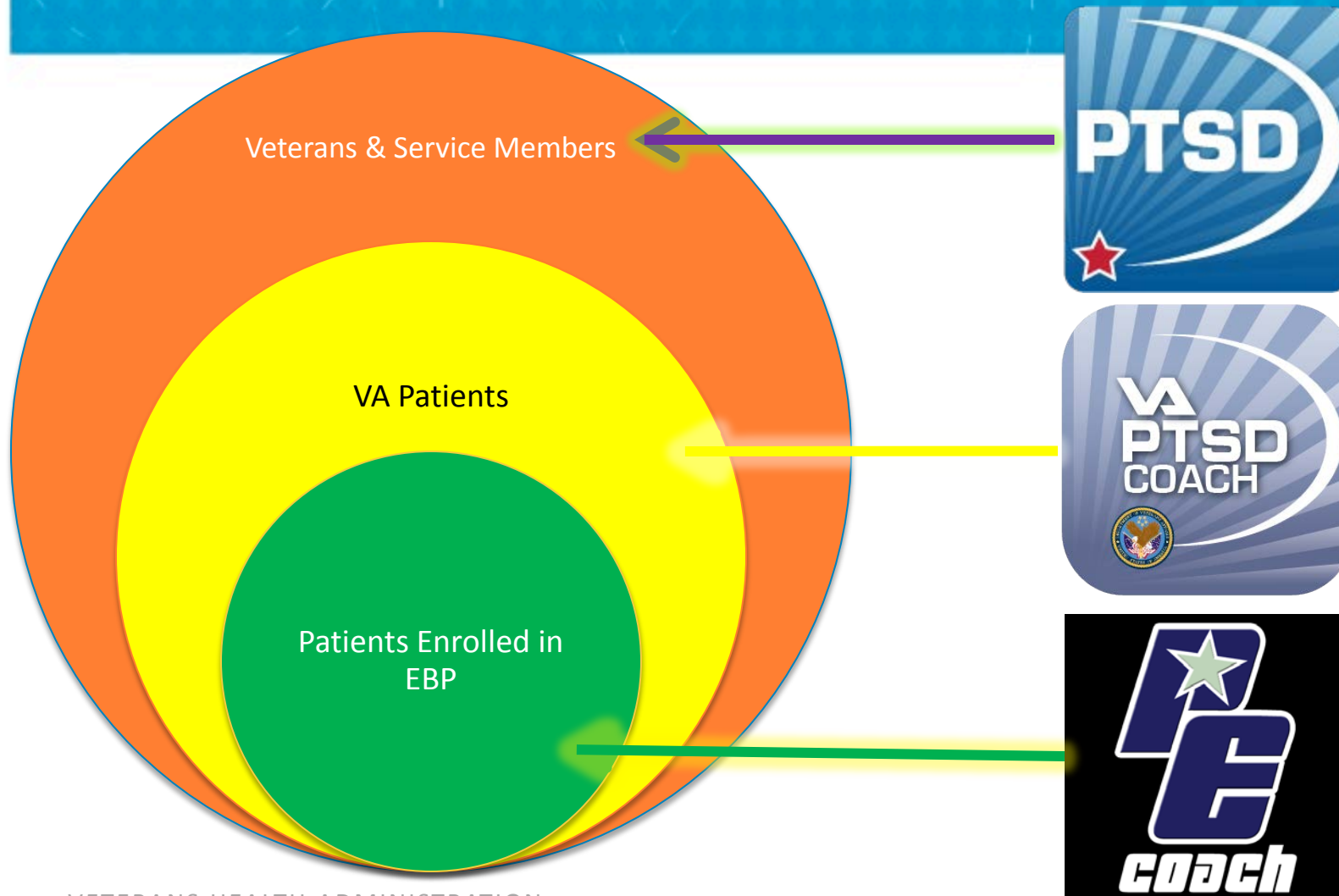




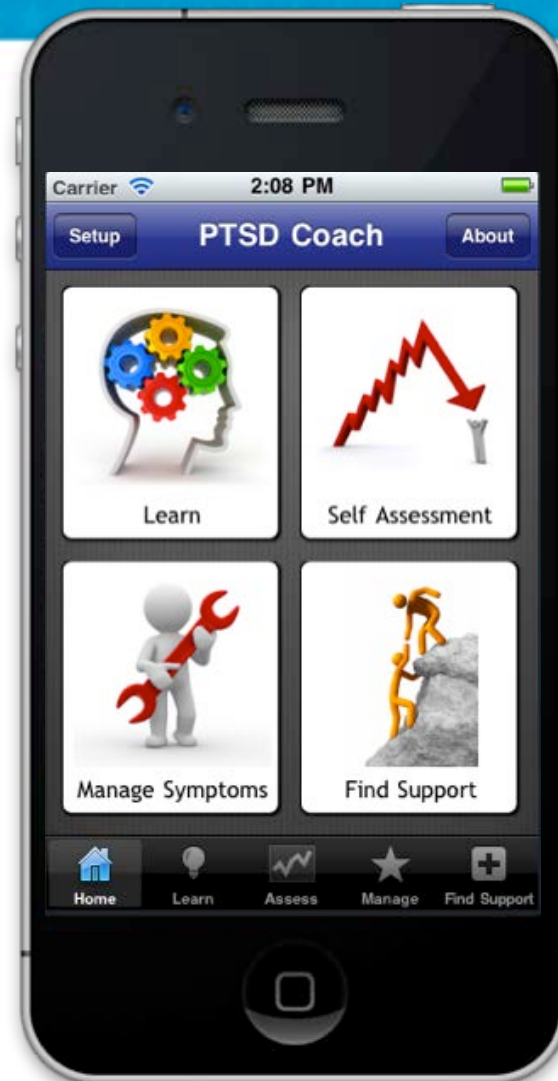
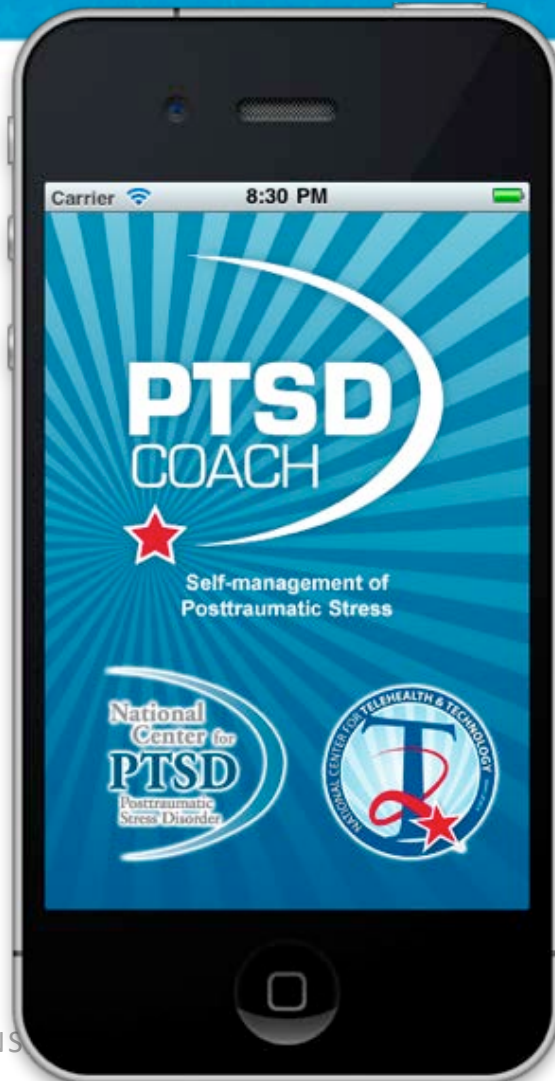
# Mobile App Target Users



# Products for Veterans with PTSD



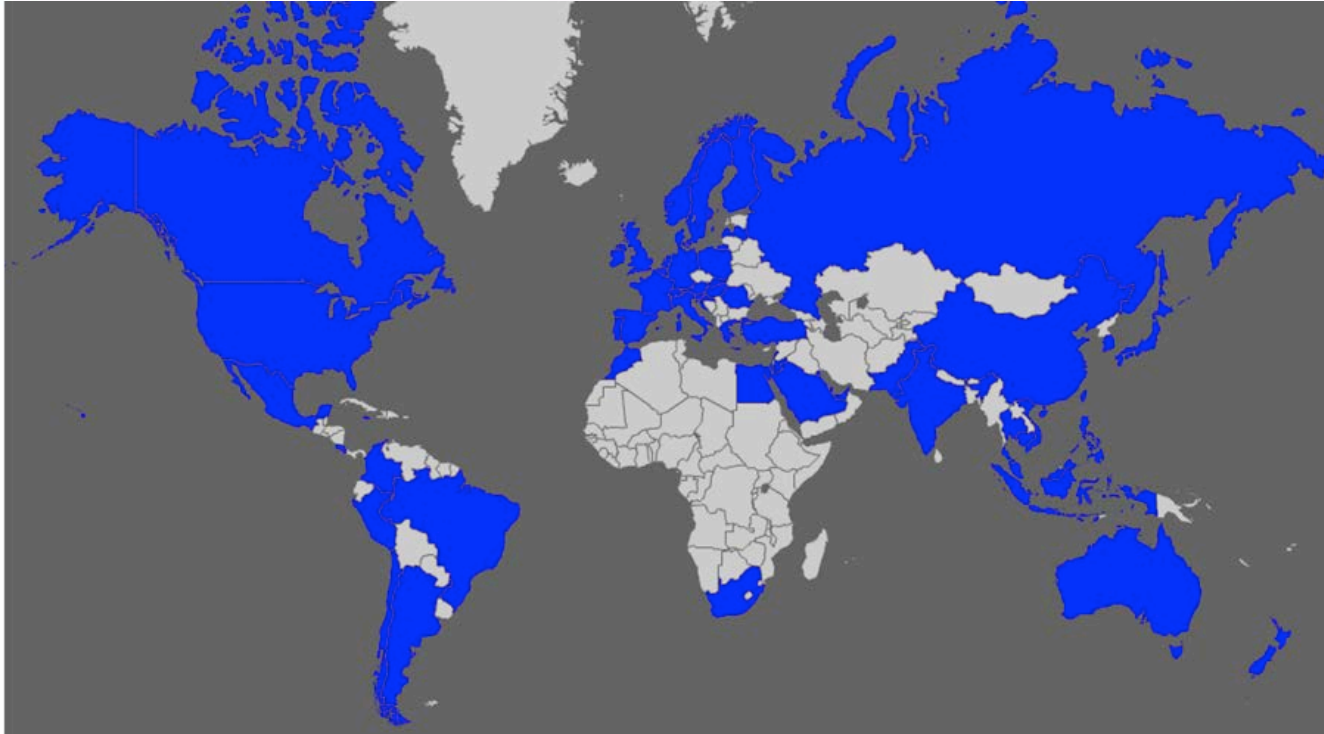
# PTSD Coach



# Legal Considerations

- The app does not collect Personally Identifiable Information
- End User License Agreement clearly indicates that this is not intended to replace treatment
- The app does not transmit any data off of the device
- The only data that is collected is anonymous aggregate data
- 508 compliant

# Metrics of Success



- Increased usage of Veterans Crisis Line
- Versioning for Canada, Israel, Australia, others, and for inner-city violence, cancer
- 2011 Winner FCC Chairman's Award for Advancements in Accessibility
- 2012 Winner ATA President's Innovation Award
- 2011 Nextgov.com Best Government App
- 2011 Yahoo's Top 10 Health Apps







## I want to work on my

Choose a problem to work on  
from the list or [view all tools](#)

- worry or anxiety
- anger
- sadness or hopelessness
- sleep problems
- trauma reminders
- avoidance of stressful situations
- disconnection from people
- disconnection from reality
- problem solving skills
- direction in life

Welcome to PTSD  
Coach Online.  
Tools to help you  
manage stress.



Meet a coach

PTSD Coach Online is for anyone who  
needs help with upsetting feelings.  
Trauma survivors, their families, or  
anyone coping with stress can benefit.



# Why Add Apps to Evidence-Based Protocols?



Assessment and engagement

Active treatment with adherent providers and patients

Discharge!

If we can only do one thing...



Better  
outcomes

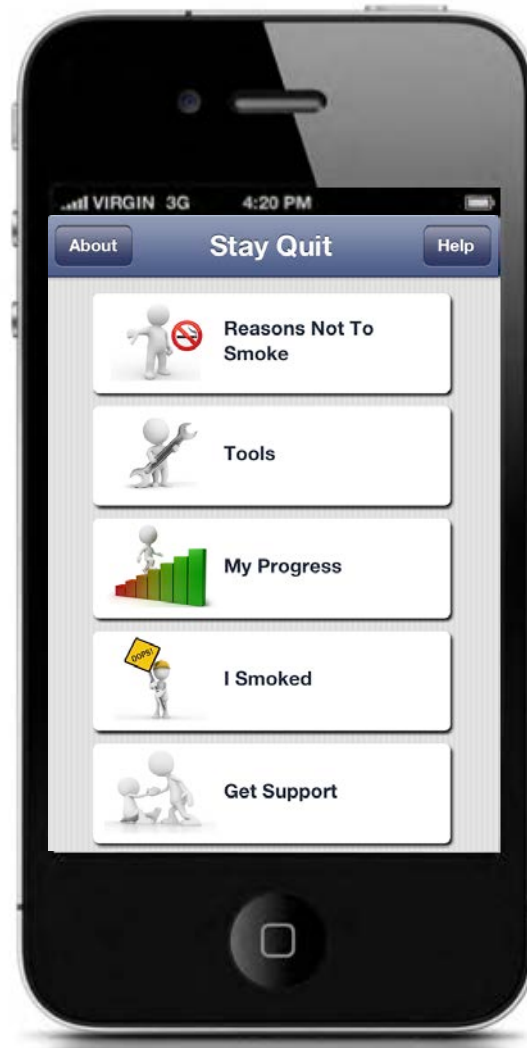
# Parsimonious Development & Design

- Identify specific implementation challenges for the protocol by working with scientists, treatment developers, front-line clinicians, and patients
- Identify which challenges can be solved/optimized using mobile technology
- Design/build/iterate.



# Leveraging the Evidence Base

(Creating *Evidence-Informed* Interventions)







ACT Coach



Anger Mgmt



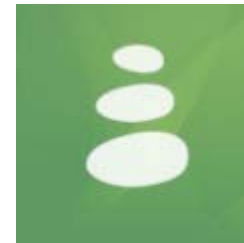
CBT-i Coach



Concussion Coach



CPT Coach



Mindfulness Coach



Mood Coach



Moving Forward



Parenting2Go



PE Coach



PFA Mobile



PTSD Coach



PTSD Explorer



PTSD Explorer  
EMA



PTSD Coach for  
Cancer



PTSD Family Coach



Safety Plan



Self-Report App



SPR

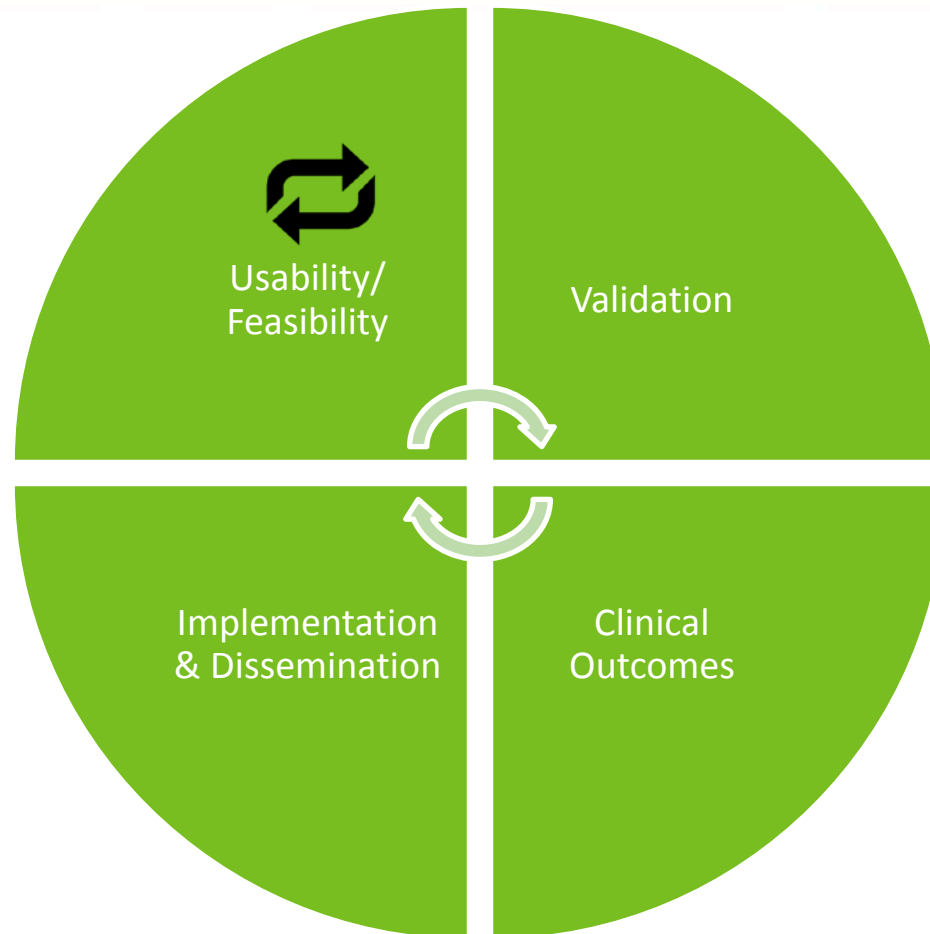


Stay Quit Coach



mVetChange

# Mobile App Research & Evaluation



# Connected Health

The screenshot displays the VA Mobile Health website. At the top is a navigation bar with links: Home, Veteran Services, Business, About VA, Media Room, Locations, and Contact Us. Below this is a breadcrumb trail: VA » Healthcare » Mobile Health. The main heading is "VA Mobile Health".

On the left is a sidebar with a search bar labeled "I AM A..." and a "Select One" dropdown. Below the search bar is a list of links: VA Mobile Health, About VA Mobile Health, About VA Mobile Health Pilots, VA Mobile Health FAQs, Released Apps, Family Caregiver Pilot, Veteran Appointment Request Pilot, MyStory Pilot, and Leadership.

The main content area features a large video player showing Dr. Robert Petzel at a podium, holding a tablet. The video is titled "Connected Health Showcase". To the right of the video is a text box with the following content:

**On July 30, 2013, VA showcased its Connected Health technologies.**

Under Secretary for Health Dr. Robert Petzel: "These Mobile Apps are rapidly changing how Veterans access the resources and information that we have available to them."

[Read the story »](#)

[Learn more about VA Mobile Health »](#)

Below the video and text box is a row of four buttons: Connected Health Showcase, Veteran Appointment Request Pilot, Excellence in Mission, and Pilots Officially Launch!.

At the bottom of the page is a footer with the Veterans Crisis Line logo and phone number (1-800-273-8255), and a "Development Portal Quick Links..." link.

# The Case For Connecting or *Why No App Should Be An Island*

- Lost valuable clinical data.
- Lost opportunity to test effectiveness of novel products.
- Frustration for patients AND providers (especially if the app is “prescribed”).
- Providers don’t want to touch patients’ devices.
- Patients are whole people with multiple problems. Single-target apps ignore this reality.





# Open mHealth Case Study

## PTSD Scenario

Each app has a corresponding Data Storage Unit (DSU) that connects to Ohmage via each DSU's native semantics...

PTSD Dashboard connects to Ohmage via Open mHealth's JSON Protocol and HTTPS. Ohmage and PTSD Dashboard need not be on the same server to communicate as the protocols support cross-domain access.



Multiple Apps from different suppliers installed on Android Device.



Data is uploaded from phone directly to **Ohmage** via HTTPS where is stored.



Patients and Clinicians can use **PTSD Dashboard** to log in and view outcome data at a glance. The dashboard authenticates with **Ohmage** and downloads data payloads, which are then represented graphically.

# Questions

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**Julia E. Hoffman, Psy.D.**

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## **Acknowledgements:**

MHS Web Services Team

Make the Connection Team

Mobile Development Team

Integrated Mental Health Strategy Teams

National Center for PTSD

Telehealth Services